

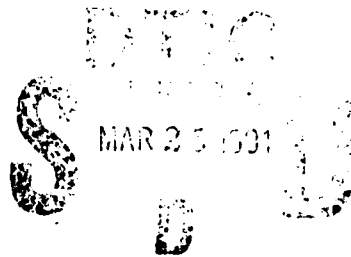
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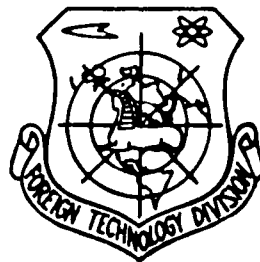
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FOREIGN TECHNOLOGY DIVISION



RESEARCH ON "INDUSTRIAL 10kW CO<sub>2</sub> LASET"  
ACHIEVES MAJOR BREAKTHROUGH



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## HUMAN TRANSLATION

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**RESEARCH ON "INDUSTRIAL 10kW CO<sub>2</sub> LASER"  
ACHIEVES MAJOR BREAKTHROUGH**

A national key task item of the 7th Five-Year Plan, the "INDUSTRIAL 10kW CO<sub>2</sub> LASER", has been undertaken by units such as the Central College of Science and Engineering, supported by the National Education Committee. Important key S&T targets of the 7th Five-Year Plan have already been achieved. This laser is capable of continuous output power of over 10kW and can operate continuously for more than 6 hours.

The industrial 10kW CO<sub>2</sub> laser is one of the items which the industrially developed nations are competing to develop. At present, only 5 countries in the world, U. S., Soviet Union, U. K., Japan, and Canada, have a CO<sub>2</sub> laser of more than 10kW. The 10kW CO<sub>2</sub> laser developed as a key task of China's 7th Five-Year Plan and all its technological targets such as output power, electrooptical conversion efficiency and primary charging continuous operating time, have reached the level of world advancement, allowing China to enter the ranks of international advancement in the area of laser technology.

The industrial 10kW CO<sub>2</sub> laser can have wide application in such areas of industry as heat treating, machining, welding and surface treatment in industries such as steel, automobiles, ship building and aircraft manufacturing. For instance, using the high-efficiency laser beams of this 10kW laser to treat rollers, fan blades and automotive cylinder blocks can increase the life of these parts and produce large economic benefits. At present, industrial tests of gear welding is already being done on this 10kW laser. Once it proves successful and is introduced to the automotive industry, it will produce an annual economic benefit of 2,000,000-3,000,000 yuan.

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